Organisational Stressors, Coping, and Outcomes in Competitive Sport

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Abstract

Organisational stressors are associated with positive and negative outcomes in extant literature; however, little is known about which demands predict which outcomes. Extant theory and literature also suggests that coping style may influence an individual's resilience or vulnerability to stressors and, subsequently, their psychological responses and outcomes. The purpose of this study was, therefore, to examine the main effects of organisational stressors and coping styles on various outcomes (e.g., positive and negative affect, performance satisfaction). Sport performers (n = 414) completed measures of organisational stressors, coping styles, positive and negative affect, and performance satisfaction. Multiple regression analyses revealed positive relationships of both goals and development stressors (duration and intensity) and team and culture stressors (frequency and intensity) on negative affect. Furthermore, problem-focused coping was positively related to positive affect, and emotion-focused coping was positively related to negative affect. This study furthers theoretical knowledge regarding the associations that both organisational stressors (and their dimensions) and coping styles can have with various outcomes, and practical understanding regarding the optimal design of stress management interventions.

Keywords: affect, demands, indicator, occupational, satisfaction

Organisational Stressors, Coping, and Outcomes in Competitive Sport

Organisational stressors can be associated with various problems for performers competing in sport. Specifically, these stressors – defined as "environmental demands (i.e., stimuli) associated primarily and directly with the organisation within which an individual is operating" (Fletcher, Hanton, & Mellalieu, 2006, p. 329) – have been linked with negative emotions, undesirable behaviours, dissatisfaction, overtraining, poor psychological health, low well-being, burnout, and underperformance (Fletcher, Hanton, & Wagstaff, 2012; Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999; Meehan, Bull, Wood, & James, 2004; Noblet, Rodwell, & McWilliams, 2003; Tabei, Fletcher, & Goodger, 2012). It is important to note, however, that organisational stressors do not always relate to negative consequences; rather, such demands can also be associated with positive emotions, determination, commitment, pleasure, and satisfaction (Fletcher et al., 2006, 2012). The ambiguity concerning whether organisational stressors predict negative or positive outcomes indicates that research needs to investigate this relationship further, specifically ascertaining exactly *which* organisational stressors are related to *which* outcomes. In this examination, the situational aspects (e.g., dimensions) of stressors should be taken into consideration (e.g., frequency, intensity, duration) since their exclusion has been identified as a shortcoming of previous stress in sport research (Nicholls & Polman, 2007). Based on these observations, the first purpose of this study is to examine the main effects of a range of organisational stressors (and their dimensions) on outcomes in the sport context.

The Organisational Stressor Indicator for Sport Performers (OSI-SP; Arnold, Fletcher, & Daniels, 2013) can be used to measure a range and the dimensions of organisational stressors. This indicator, which was developed and validated in the sports context, assesses the frequency, intensity, and duration dimensions of stressors in five organisational domains. These are goals and development (encapsulates the organisational stressors associated with an individual's feedback, progression, and transitions within his

or her sport), logistics and operations (encapsulates the organisational stressors associated with the arrangement and implementation of procedures for training and/or competition), team and culture (encapsulates the organisational stressors associated with the attitudes and behaviour within the team), coaching (encapsulates the organisational stressors associated with the coach's personality and interpersonal skills), and selection (encapsulates the organisational stressors associated with how sport performers are chosen for teams and/or competitions) (Arnold et al., 2013).

Organisational stressors can be situated in the first stage of Fletcher and colleagues' (Fletcher & Fletcher, 2005; Fletcher et al., 2006; Fletcher & Scott, 2010) meta-model of stress, emotions, and performance. Specifically, in line with the transactional conceptualisation of stress (cf. Cox, 1978; Lazarus & Launier, 1978), the basic premise of the model is that "stressors arise from the environment the performer operates in, are mediated by the processes of perception, appraisal and coping, and, as a consequence, result in positive or negative responses, feeling states, and outcomes" (Fletcher et al., 2006, p. 333). Whilst there are a variety of outcomes that organisational stressors can have an effect on (cf. Fletcher et al., 2006), the outcomes of positive and negative affect are important indicators of subjective well-being (Lundqvist, 2011; see also Diener, 2009; Diener, Lucas, & Oishi, 2005). The decision was made in this study to focus on subjective well-being, in view of the lack of an appropriately validated measure of global well-being in the sports context and the emphasis given to the subjective component in extant literature (cf. Diener, 2009; Lundqvist, 2011). To further understand the associations between organisational stressors and outcomes, research should also measure sport performers' satisfaction with their own performance, particularly given the importance placed upon performance in sport. Since no research explicitly examines the relationships between the range of organisational stressors (as measured on the OSI-SP) and the above outcomes, the following exploratory hypothesis is proposed for the first purpose of this study:

Hypothesis One. The dimensions of organisational stressors will have significant main effects on positive affect, negative affect, and performance satisfaction.

Despite there being no current studies in sport which examine the relationships between organisational stressors (as measured on the OSI-SP) and the above outcomes, there is research in alternative occupations which can be used to support and underpin this exploratory hypothesis. Cooper, Dewe, and O'Driscoll (2001), for example, discuss a body of literature which has found that occupational stressors (e.g., organisational roles, work relationships, career development) can be associated with various job related strains and individuals' psychosocial well-being and performance (see also Navya, & Sandhya, 2014; Sullivan & Bhagat, 1992; Thorsteinsson, Brown, & Richards, 2014).

In follow-up to this first purpose and hypothesis, it is also important to consider *why* organisational stressors can be associated with both positive and negative outcomes. Indeed, as Fletcher et al. (2012) emphasized:

> Not all performers react in the same way to stressors they encounter; they typically display a wide range of emotional, attitudinal and behavioral responses. While experiencing some organisational stress is inevitable, it does not necessarily follow that athletic and psychological consequences will invariably be negative. To advance our understanding of this area, it is time to consider in far more detail the linkages between organisational stressors . . . and potential outcomes. (p. 356)

The meta-model of stress, emotions, and performance (Fletcher et al., 2006) provides one framework for explaining the relationship between organisational stressors and outcomes. The first stage of the model, person-environment (P-E) fit, proposes that strain arises from the misfit or incongruence between a person and the environment. The second stage, emotion-performance (E-P) fit, proposes that if the relationship between an emotion and performance is out of equilibrium, then negative feeling states occur. The third stage, coping and overall outcome (COO), focuses on coping with these reactions and proposes that negative outcomes occur through the inadequate or inappropriate use of

coping strategies. The meta-model suggests that this ongoing transactional process is influenced by various personal (e.g., affect, self-confidence) and situational (e.g., social support, available autonomy) characteristics. Fletcher et al. (2006) suggest that these characteristics affect performers' resilience or vulnerability to stressors and can account for variance in consequences by influencing the tone of psychological responses.

One variable which, according to the meta-model, is particularly worthy of investigation when examining organisational stressors is coping style[1]. Defined as an individual's disposition or tendency to select certain coping strategies when confronted with acute stress (Anshel, 1996; Roth & Cohen, 1986), coping style may help to explain whether or not positive or negative outcomes occur. To echo the importance of examining coping style, it has been suggested in organisational behaviour research that this variable may be more important to an individual's well-being than the presence of a stressor itself (Perrewe & Zellars, 1999). Although a number of coping styles have been proposed in extant literature (cf. Anshel, 1996; Lazarus, 1993), three higher-order functions of coping are commonly referred to: problem-focused coping, emotion-focused coping, and avoidance coping (Lazarus & Folkman, 1984; Nicholls & Polman, 2007). If individuals engage in problem-focused coping, they typically exert cognitive and behavioural efforts to change a situation; for emotion-focused coping they typically adopt strategies to regulate any emotional distress; and for avoidance coping they typically attempt to disengage from a stressful situation (Crocker & Graham, 1995).

Research on the effects that a sport performer's coping style has on outcomes is typically in accordance with theoretical predictions (Fletcher et al., 2006; Folkman, 1984; Folkman & Lazarus, 1988). Specifically, problem-focused coping has been associated with positive affect, whereas emotion-focused coping has been associated with negative affect (Crocker & Graham, 1995; Nicholls & Polman, 2007; Ntoumanis & Biddle, 1998; Ntoumanis, Biddle, & Haddock, 1999). Ntoumanis et al. (1999) also found that avoidance coping was associated with negative affect. To explain these associations, it has been

suggested that if individuals are active coping agents and directly attempt to deal with a source of threat or challenge (e.g., problem-focused coping) this can predict positive emotions, whereas if individuals are unable to take direct action and instead try to change the meaning of a situation or divert attention away from it (e.g., emotion-focused and avoidance coping) then negative emotional outcomes usually ensue (Crocker & Graham, 1995; Ntoumanis et al., 1999). When studying these relationships, scholars have typically examined coping with stress in general, rather than coping specifically with organisational demands. This focus is beginning to change with some scholars examining which coping strategies a particular sample of performers (taken from the same sport) utilise to cope with organisational stressors (Didymus & Fletcher, 2014; Kristiansen, Murphy, & Roberts, 2012; Weston, Thelwell, Bond & Hutchings, 2009). This research, however, has not investigated how performers from various sports cope with the comprehensive range of organisational stressors that have been identified in extant literature (cf. Arnold & Fletcher, 2012b; Arnold et al., 2013), nor has it examined the effects of such coping on specific outcomes. The second purpose of this study, therefore, is to investigate how sport performers typically cope (i.e. coping style) with a comprehensive range of organisational stressors and the main effects this can have on positive and negative affect. Based on the aforementioned literature and theoretical propositions, the following hypothesis is proposed:

> *Hypothesis Two.* Problem-focused coping will have a significant main effect on positive affect, whereas emotion-focused and avoidance coping will have a significant main effect on negative affect.

In addition to the effects of stressors and coping styles, there are a number of other moderators (e.g., resilience) and mediators (e.g., appraisal) of the organisational stress process which can predict and help to explain variance in the outcomes investigated (cf. Fletcher et al., 2006). Therefore, it is acknowledged at the outset that although conceptually stressors and coping styles are only two components of the broader stress

process, pragmatically scholars are often required to focus their investigations on particular components of the stress process rather than attempting to capture the entire phenomenon (cf. Arnold & Fletcher, 2012a; Lazarus, 1990). It is envisaged that the results from this exploratory study will provide important information for researchers and practitioners on the associations that organisational stressors and coping styles can have with various outcomes.

Method

Participants

Four hundred and fourteen sport performers agreed to participate in this study (197 males, 217 females). The participants were aged from 18 to 66 (M_{age} = 25.99, *SD* = 9.95) and were from a total of 34 different sports. Examples of the sports included in the sample were football, hockey, tennis, netball, athletics, golf, rugby, equestrian, modern pentathlon, handball, cycling, archery, sailing, and badminton. The participants had been competing in these sports for 2 months to 53 years (*M* = 11.71 years, *SD* = 7.79), with 352 participants classifying their current performance status in their sport as part time, whereas 62 were full time. The participants ranged in performance level from club to international, with 130 currently competing at club level, 19 at county level, 7 at junior national level, 18 at state/regional level, 131 at collegiate/university level, 42 at senior national level, and 67 at international level.

Procedure

Following institutional ethical approval, sport performers were recruited by either contacting them directly or by enquiries with coaches, clubs, sport organisations, universities, and event organisers. Details of those to contact arose from the authors' sporting networks as well as comprehensive online searches. Once recruited, data collection took place using online (*n* = 276) and paper (*n* = 138) versions of the measures[2]. The instructions at the start informed participants of their ethical rights (e.g., confidentiality, right to withdraw) and participants were asked to sign an informed consent

sheet prior to completing the measures.

Measures

The Organisational Stressor Indicator for Sport Performers (OSI-SP). The 23-item OSI-SP (Arnold et al., 2013) measured the organisational stressors that participants had encountered as part of their participation in competitive sport over the past month. The five subscales on the OSI-SP are Goals and Development (six items; example: "the development of my sporting career"), Logistics and Operations (nine items; example: "travelling to or from training or competitions"), Team and Culture (four items; example: "the atmosphere surrounding my team"), Coaching (two items; example: "my coach's personality"), and Selection (two items; example: "how my team is selected"). For all items on the OSI-SP, the stem "In the past month, I have experienced pressure associated with…" was provided, to which the participants responded on three rating scales with options ranging from 0 to 5. These scales are frequency ("how often did this pressure placed a demand on you?") (0 = *never*, 5 = *always*), intensity ("how demanding was this pressure?") (0 = *no demand*, 5 = *very high*), and duration ("how long did this pressure place a demand on you for?") (0 = *no time*, 5 = *a very long time*). Over a series of studies, Arnold et al. (2013) developed and validated the OSI-SP and, using procedures such as exploratory and confirmatory factor analysis, have demonstrated the indicator's validity and internal consistency (in this study: $\alpha > .71$; see also Arnold, Ponnusamy, Zhang, & Gucciardi, in press).

Modified COPE (MCOPE). To measure coping, participants were presented with 12 coping strategies from the MCOPE (Crocker & Graham, 1995) and asked to indicate, on a five-point rating scale (1 = *not at all*, 5 = *very much*), how much they *typically* used each strategy to cope with the pressures they experienced as part of their participation in competitive sport. Dispositional instructions (i.e., asking about *typical* selection of coping strategies) meant that an individual's coping style could be assessed (Aldwin, 1994). The

strategies measured were classified into the higher-order functions of coping, with five categorized as problem-focused coping (active coping, seeking social support for instrumental reasons, planning, suppression of competing activities, increasing effort; example item: "I work harder"), five as emotion-focused coping (seeking social support for emotional reasons, humour, venting of emotion, self-blame, wishful thinking; example item: "I talk about my feelings with someone"), and two as avoidance coping (denial, behavioural disengagement; example item: "I act as though I am not having pressures"). Cronbach's alpha in this study was .72 for the problem-focused coping scale, .68 for emotion-focused coping, and .51 for avoidance coping. All the scales were included since one category of coping might be adequate to relieve stress; therefore, alpha estimates have limited applicability for coping measures (Billings & Moos, 1981). Furthermore, previous studies have found acceptable psychometric properties for the MCOPE (see, e.g., Crocker & Isaak, 1997).

The Positive and Negative Affect Scales (PANAS). The 20-item PANAS (Watson, Clark, & Tellegen, 1988) were used to measure positive affect (10 items; examples: "excited", "enthusiastic", "inspired") and negative affect (10 items; examples: "afraid", "upset", "guilty"). For each item participants were asked to indicate, on a five-point rating scale (1 = *very slightly or not at all*, 5 = *extremely*), the extent to which they had felt that way during their participation in competitive sport over the past month. Watson et al. (1988) found that the PANAS were internally consistent across a range of different time instructions and had excellent factorial, convergent, and discriminant validity. The PANAS were also internally consistent in the present study (positive affect $\alpha = .90$, negative affect $\alpha = .84$).

Performance Satisfaction. Participants subjectively rated satisfaction with their sporting performances over the past month on an 11-point rating scale (0 = *totally dissatisfied*, 10 = *totally satisfied*). A subjective measure of performance was used instead

of an objective assessment since the former enables comparisons among performers competing in diverse sports, a more sensitive indication of performance, and is less likely to be influenced by environmental factors such as an opponent's skill level (Males & Kerr, 1996).

Data Analysis

Three multiple regressions were used to examine the main effects proposed in Hypotheses 1 and 2 (with the dependent variables of positive affect, negative affect, and performance satisfaction respectively). The first block of the regressions included the frequency and duration dimensions of all organisational stressors (e.g., goals and development, logistics and operations, team and culture, coaching, and selection; 10 predictor variables). The second block included the intensity dimension of all organisational stressors (five predictor variables), and the third block included the three coping variables (e.g., problem-focused coping, emotion-focused coping, and avoidance coping; three predictor variables). In total, therefore, for each of the three multiple regressions ran, there were 3 steps/blocks and 18 predictors. The decision was made to enter the variables into three separate blocks in accordance with research and theory in this area (cf. Dewe, 1992; Fletcher et al., 2006; Nicholls & Polman, 2007; Lazarus, 1990). To elaborate, the first stage of the transactional stress process involves a stressor occurring (as marked by objective dimensions of stressors such as frequency and duration). Once this stressor has occurred, it is perceived and appraised by the individual (including how demanding an individual subjectively interprets the exposure of a stressor to be, i.e. its intensity). If meaning is ascribed to an encounter, then an individual evaluates his or her coping options and subsequently implements those most appropriate to deal with the stressor. For each block of the regressions, the significance of increments in explained variance in the subsequent outcomes over and above the variance accounted for by those variables already entered into the equation (ΔR^2) was assessed, as well as the unstandardised coefficients (B and SE), the standardised coefficient (β), and if this was

significant (i.e. $p < .05$).

Results

Preliminary Analyses

No variable had >5% missing data in this study and across all variables the total amount of missing data was <1%; therefore, any data not present were assumed to be missing at random (cf. Tabachnick & Fidell, 2001). The expectation maximisation algorithm was used to impute missing values. No cases were deemed to exert undue influence over the parameters of the model, since all demonstrated Cook's distance values of <1. Furthermore, the assumptions for regression analysis were tested and satisfied (Field, 2009). Table 1 illustrates the means, standard deviations, and correlations of the variables in this study.

Main Analyses

Hypothesis 1. This hypothesis proposed that the dimensions of organisational stressors would have significant main effects on positive affect, negative affect, and performance satisfaction. In partial support of the proposed hypothesis, organisational stressors did have significant main effects on negative affect (see Table 3). In contrast to the hypothesis, however, organisational stressors displayed no significant main effects on positive affect or performance satisfaction (see Tables 2 and 3).

As can be seen in Table 3, a significant increment in explained variance of negative affect was observed when the frequency and duration ($\Delta R^2 = .211$, $p = <.001$) and intensity ($\Delta R^2 = .029$, $p = .010$) dimensions of organisational stressors were added to the regression model. From this table, it can be concluded that greater organisational stressor dimensions generally predicted greater negative affect. This effect was significant for two of the five organisational stressor dimensions (with logistics and operations, coaching, and selection being non-significant). Specifically, the duration of goals and development (B = .139, SE = .062, $\beta = .184$, $p = .026$) and the frequency of team and culture organisational stressors (B = .116, SE = .058, $\beta = .163$, $p = .046$) had significant main positive effects on

negative affect. Furthermore, the intensity of both goals and development (B = .171, SE = .075, β = .227, p = .024) and team and culture (B = .145, SE = .068, β = .213, p = .034) organisational stressors had significant main positive effects on negative affect.

Hypothesis 2. The second main effects hypothesis proposed that problem-focused coping would have a significant main effect on positive affect, whereas emotion-focused and avoidance coping would have a significant main effect on negative affect. As can be seen in Tables 2 and 3, the results revealed that significant increments in explained variance of positive affect (ΔR^2 = .130, p = *<.001*) and negative affect (ΔR^2 = .072, p = *<.001*) were observed when coping variables were added in block three of the models. Specifically, problem-focused coping had a significant main positive effect on positive affect (B = .431, SE = .076, β = .312, p = <.001) and emotion-focused coping had a significant main positive effect on negative affect (B = .330, SE = .063, β = .272, p = <.001); therefore, providing partial support for this hypothesis. Avoidance coping did not have a significant main effect on negative affect as hypothesized (p = .765); however, did have a significant main negative effect on positive affect (B = -.285, SE = .064, β = -.231, p = <.001).

Discussion

Organisational stressors have the potential to be associated with either positive or negative outcomes for performers. The meta-model (cf. Fletcher et al., 2006) suggests, amongst other propositions, that the stressors individuals encounter and their way of coping with such demands can be associated with various outcomes; therefore, this study sought to test these theoretical proposals. Specifically, the study examined the main effects of organisational stressors and coping styles on outcomes. First, the study hypothesized that organisational stressors would have significant main effects on positive and negative affect, and performance satisfaction. In partial support, it was found that the dimensions of some organisational stressors (goals and development duration and intensity; team and culture frequency and intensity) had a main positive effect on negative affect. Spector,

Zapf, Chen, and Frese (2000) have discussed substantive mechanisms that can help to explain why negative affect relates to job stressors. One of these is the causality mechanism which contends that exposure to high levels of job stressors tends to make people higher in negative affect; therefore, this mechanism appears applicable to explain these findings. Alternatively, Spector et al. (2000) highlight how an individual's tendency to experience negative affect can influence his or her stressor perceptions, meaning that someone who has high levels of negative affect may perceive higher stressor dimensions (cf. Ferguson, Daniels, & Jones, 2006). Unfortunately, the cross-sectional nature of the present study inhibits causal inference. Although this design was appropriate for exploratory research in this area (cf. Crocker, Mosewich, Kowalski, & Besenski, 2010), future research should employ experimental and longitudinal designs to ascertain the exact nature of the relationship between stressors and negative affect and enable stronger causal inferences. It could also be the case that if performers make a threat appraisal in response to organisational stressors, this could trigger negative affect (Maier, Waldstein, & Synowski, 2003; see also, Hanton, Wagstaff, & Fletcher, 2012; Fletcher et al., 2012); therefore, future researchers should also examine potential mediators of the organisational stress process.

Interestingly, it is worth noting that there were no significant main effects of organisational stressors on positive affect or performance satisfaction as hypothesised. These findings are supported in personality and social psychology literature (see e.g., Watson, 1988; Watson et al., 1988), which indicates that negative affect (but not positive affect) is related to self-reported stress, and positive affect (but not negative affect) is related to satisfaction. Future research is required to test the relationship between organisational stressors and positive affect and satisfaction. During these investigations, scholars should reflect on the best ways of measuring such outcomes in relation to self-reported stressors. For instance, these results further support the distinctive qualities of positive and negative affect and, thus, the importance of measuring them separately (cf.

Watson, 1988). Furthermore, performance satisfaction in the present study was only assessed via one item; therefore, should be supplemented in future work by additional items (cf. Tabachnick & Fidell, 2001) and/or triangulation methods (e.g., objective performance results, observations; cf. Arnold & Fletcher, 2012a).

The second hypothesis in this study proposed that problem-focused coping would have a significant main effect on positive affect, whereas emotion-focused and avoidance coping would have a significant main effect on negative affect. In line with this hypothesis, problem-focused coping had a main positive effect on positive affect and emotion-focused coping had a main positive effect on negative affect. To explain these findings, individuals can experience situational mastery and control when using problem-focused coping which is critical for positive well-being (Carver & Scheier, 1998), of which positive affect is a key component (Lundqvist, 2011). In comparison, emotion-focused coping is typically an indicator of lack of control and inability to take direct action, which has been related to negative emotional outcomes (Ntoumanis & Biddle, 1998). Avoidance coping did not have a significant main effect on negative affect as hypothesised; however, did have a significant main negative effect on positive affect. To explain this finding, it is likely that an individual who disengages with and avoids a stressful situation will not experience the control, mastery, and subsequent positive emotions that they would have if he or she had attempted to exert cognitive and behavioural efforts to change it; thus, reducing positive affect (Crocker & Graham, 1995; Ntoumanis et al., 1999). An explanation for the lack of main effect between avoidance coping and negative affect could be that avoidance coping was not adequately assessed in this study, since only two items were used to measure the construct and a low alpha value ($\alpha = .51$) for the subscale was reported. Future research should, therefore, examine this hypothesised relationship using alternative measures of avoidance coping (see, e.g., Gámez, Chmielewski, Kotov, Ruggero, & Watson, 2011).

It might be contended that coping style interacts with stressors to predict outcomes

in a stress-buffering model (Cohen & Wills, 1988; Rees & Hardy, 2004). To elaborate, this model suggests that moderating variables, such as coping style, can buffer or protect individuals from the harmful or pathogenic influence of stressful events. This is in line with previous sport psychology research which has indicated that, rather than being consistent across all situations, a sport performer's coping style is a function of the type and dimension of stressor encountered (see, e.g., Anshel, 1996; Anshel & Anderson, 2002). As a result, it is important to not only assess the main effects of coping style on positive/negative affect, but to also assess coping style as a moderator of the relationship between organisational stressors (and their dimensions) and affect. Although this is worthy of future investigation, we did conduct some additional analyses on our data. In these analyses, a number of interactions were run[3] using moderated hierarchical regression analyses (Jaccard, Turrisi, & Wan, 1990); however, no consistent evidence was found for significant interaction effects between organisational stressors and coping variables. In accordance with the typically low power of moderated regression (cf. Aguinis, Beaty, Boik, & Pierce, 2005), this finding might have additionally been explained by the presence of another moderating variable (e.g., resilience, social support, mental toughness). To test this proposition, future research should investigate moderating variables simultaneously since Smith, Smoll, and Ptacek (1990) have identified that if two moderators operate in combination (known as the *conjunctive moderating hypothesis*), the presence of one moderating variable might offset the influence that another may create (cf. Raedeke & Smith, 2004). Therefore, in reference to this study, coping style may have produced a non-significant interaction because sport performers exhibited strong levels of another moderating variable.

Future investigations could also examine the stage in the stress process at which significant interactions occur since it may be the case that moderating variables have their

greatest impact at different stages of the stress process. For example, although the terms are often used interchangeably, resilience and coping style may moderate relationships at different stages of the stress process. Indeed, as Fletcher and Sarkar (2013) suggest, resilience has a protective impact by influencing an individual's appraisal *prior to* emotional and coping responses (e.g., the person-environment (P-E) fit and emotion-performance (E-P) fit stages of the meta-model; Fletcher et al., 2006), whereas coping is characterized by its *response to* a stressful encounter and how effective it is in resolving any issues that occur (e.g., the coping and overall outcome (COO) stage of the meta-model). Finally, it might have been the case that no interaction effects were found in this study since such a large scale survey cannot detect the subtle effects of coping; therefore, future research should adopt more context or time-sensitive methods (e.g., panel or diary studies; e.g., Kinicki, Prussia, & McKee-Ryan, 2000).

A strength of this study is that it provides the first investigation of the relationships between organisational stressors (as measured by the OSI-SP), coping styles, satisfaction, and affect in competitive sport. Collectively, the results indicate that the dimensions of certain organisational stressors and coping style are associated with various outcomes; therefore, providing support for and extending propositions made in the theoretical meta-model (Fletcher et al., 2006). Notwithstanding these strengths, it is important to acknowledge the limitations of this study. First, self-report data were collected in this study which can be influenced by affective and attitudinal reactions, personality traits, habitual coping responses, and social constructions (Arnold & Fletcher, 2012a). To mitigate such concerns and reduce measurement confounding, scholars should look to collect more objective measurements of stress (e.g., physiological indicators) in future research (cf. Arnold & Fletcher, 2012a). An additional advantage of objective measures is that they can also provide a clearer link to environmental factors requiring alteration; however, some

scholars have argued that they are still, ultimately, underpinned by an individual's subjective perspective of their environment. Therefore, we suggest researchers should adopt a triangulation strategy (e.g., self-report, physiological indicators, observations) (Arnold & Fletcher, 2012a; Campbell-Quick, Quick, & Gavin, 2000; Frese & Zapf, 1988).

The aforementioned limitations illustrate the wide scope of research designs that might be used in future organisational stress in sport research. Indeed, since the development of the OSI-SP (Arnold et al., 2013), there has only been one quantitative study published to date which uses the indicator. Specifically, this study tested the effects of potential moderators (e.g., demographic differences) in the organisational stress process (Arnold, Fletcher, & Daniels, 2016). To extend this design (plus that adopted in the current study) and progress knowledge on this topic, future research could adopt more advanced statistical techniques to test hypotheses with multiple independent and dependent variables (e.g., structural equation modelling) and to account for the potential nested structure of data with participants sampled from different organisations (e.g., multi-level modelling) (cf. Byrne, 2013; Ntoumanis, Mouratidis, Ng, & Viladrich, 2015).

Turning to the praxis of the findings, it is firstly suggested that sport organisations look to take responsibility in helping to eliminate, or at least reduce, the dimensions of organisational stressors that sport performers encounter. Specifically, with reference to the findings, sports organisations might look to address the intensity and duration of goals and development stressors (e.g., goals, development of sporting career, training schedule) and the intensity and frequency of team and culture stressors (e.g., atmosphere, responsibilities, shared beliefs) to minimise the negative affect experienced by performers. Such a proactive and preventative primary stress management intervention can impact a greater number of sport performers and have a longer-lasting effect than more reactive support (cf. Ganster, Mayes, Sime, & Tharp, 1982). It will be important for sport psychologists,

however, to first use the OSI-SP with the organisation they are working with to elicit the exact nature of the issues experienced before looking to reduce the dimensions of the demands. Such reductions might occur through macro changes to the environment (e.g., changes to culture), micro changes (e.g. redesigning tasks), or changes to individual's perceptions of control (e.g., enhancing decision-making opportunities) (Arnold & Randall, 2010; Cooper et al., 2001; Sutherland & Cooper, 2000). This suggested approach is somewhat similar to a stress audit adopted in occupational psychology, whereby consultants adopt questionnaires and other methods to systematically explore stress levels in organisations and identify the underlying causes (cf. Cooper et al., 2001; Dewe et al., 2010). A further example of primary stress management work that sport psychology could learn lessons from is the UK Health and Safety Executive's Management Standards for Work Related Stress. Specifically, this approach is targeted at controlling stressors rather than their consequences and has an indicator tool to assess stressors, a process for taking action when stressors are identified, and target states to be achieved within a workforce (Cousins, MacKay, Clarke, Kelly, Kelly, & McCaig, 2004; MacKay et al., 2004).

Some organisational stressors, however, are an unavoidable part of sport (Arnold & Fletcher, 2012b; Fletcher et al., 2006); therefore, the findings of this study can offer a more cogent, evidence-based approach to optimally coping with these demands. Specifically, through a secondary stress management intervention, sport psychologists can help performers manage and cope with stressful conditions (Arnold & Randall, 2010; see also Rumbold, Fletcher, & Daniels, 2012). With reference to the present findings, it is suggested that sport performers are supported in enhancing their problem-focused coping (e.g., planning, effort, active coping) so that when stressors are encountered which performers have some control over, they can reap positive affect benefits (cf. Crocker & Graham, 1995; Dewe et al., 2010).

To conclude, this study has investigated the main effects of organisational stressors and coping styles on outcomes. The findings have been interpreted and discussed to provide important advancements for theory regarding the stressor dimensions and coping styles that are associated with outcomes. Practically, by incorporating these findings into stress management interventions, practitioners can help to proactively prevent organisational demands and/or assist performers to more optimally cope with such encounters to, ultimately, negate the negative and enhance the positive outcomes associated with participation in competitive sport.

Footnotes

[1] A salient issue in coping research has been the distinction between coping styles and strategies. To elaborate, there is debate in the literature as to whether individual's coping efforts are consistent across situations (trait and *coping style* perspective), or whether coping behaviours differ based on the stressor being encountered (process and *coping strategy* perspective) (cf. Carver, Scheier, & Weintraub, 1989; Dewe, O'Driscoll, & Cooper, 2010; Lazarus & Folkman, 1984; Parker & Endler, 1996). The meta-model captures this distinction between styles and strategies, illustrating that coping strategies are mediators of the stress process and an individual's coping style is a personal variable that can influence this process (Fletcher et al., 2006). To elaborate, by acting as a mediator, coping strategies can account for the relationship and provide a link between stressors (the predictor) and outcomes (the criterion) (cf. Baron & Kenny, 1986). In comparison, as a moderating variable, coping style can affect a sport performer's resilience or vulnerability to stressors; therefore, either buffering or exacerbating P-E and E-P relationships in the stress process to, subsequently, influence an individual's psychological responses and outcomes (cf. Baron & Kenny, 1986; Fletcher et al., 2006; Semmer, 1996).

[2] A sequential model testing approach via multi-sample confirmatory factor analysis was conducted to examine whether the measurement models for paper and online methods were invariant. The results highlighted that the change in the Comparative Fit Index (CFI) values for the response scales were $\leq .01$ in all the analyses (cf. Cheung & Rensvold, 2002); therefore, supporting the equality of factor loadings, variances, and covariances across paper and online methods of data collection. As a result, paper and online data were merged before the analyses.

[3] To elaborate on the analysis strategy used to test interactions, a number of regressions were initially ran for each dependent variable. Specifically, after centring all variables

before creating interaction terms, each of the dimensions (i.e. frequency, intensity, duration) were entered separately for all five stressor categories into the regression, as well as entering the three coping variables, and a large number of interactions. We then followed a number of suggestions helpfully made by an anonymous reviewer to make the analysis strategy more manageable. First, it was suggested that we ran just 20 regressions. Specifically, these 20 regressions (five for negative affect, five for positive affect, five for performance satisfaction, and five for a previously included life satisfaction dependent variable) included a stressor severity variable (i.e. standardised scores of Frequency + Intensity + Duration for each stressor dimension separately) being entered as the Step 1 predictor for each category of organisational stressors, the three coping variables as Step 2 predictors, and the two-way interaction terms in Step 3 between the stressor severity variable and each coping variable (i.e., each regression model contained seven terms). This strategy also produced no significant interaction effects. The Reviewer also suggesting running four regressions (i.e. one for each dependent variable) with all five stressor severity scores entered in Step 1, the three coping variables in Step 2, and the interaction terms in Step 3; however, again, no significant interactions were found.

References

Aguinis, H., Beaty, J. C., Boik, R. J., & Pierce, C. A. (2005). Effect size and power in assessing moderating effects of categorical variables using multiple regression: A 30-year review. *Journal of Applied Psychology, 90,* 94-107. doi: 10.1037/0021-9010.90.1.94

Aldwin, C. M. (1994). *Stress, coping and development: An integrative perspective.* New York, NY: Guildford Press.

Anshel, M. H. (1996). Coping styles among adolescent competitive athletes. *The Journal of Social Psychology, 136,* 311-324. doi: 10.1080/00224545.1996.9714010

Anshel, M. H., & Anderson, D. I. (2002). Coping with acute stress in sport: Linking athletes' coping style, coping strategies, affect, and motor performance. *Anxiety, Stress, and Coping, 15,* 193-209. doi: 10.1080/10615800290028486

Arnold, R., & Fletcher, D. (2012a). Psychometric issues in organisational stressor research: A review and implications for sport psychology. *Measurement in Physical Education and Exercise Science, 16,* 81-100. doi: 10.1080/1091367x.2012.639608

Arnold, R., & Fletcher, D. (2012b). A research synthesis and taxonomic classification of the organisational stressors encountered by sport performers. *Journal of Sport and Exercise Psychology, 34,* 397-429.

Arnold, R., Fletcher, D., & Daniels, K. (2013). Development and validation of the Organisational Stressor Indicator for Sport Performers (OSI-SP). *Journal of Sport and Exercise Psychology, 35,* 180-196.

Arnold, R., Fletcher, D., & Daniels, K. (2016). Demographic differences in sport performers' experiences of organisational stressors. *Scandinavian Journal of Medicine and Science in Sports, 26,* 348-358. doi: 10.1111/sms.12439

Arnold, R., Ponnusamy, V., Zhang, C-Q., & Gucciardi, D. F. (2016). Cross-cultural validity and measurement invariance of the Organizational Stressor Indicator for

Sport Performers (OSI-SP) across three countries. *Scandinavian Journal of Medicine and Science in Sports.* Advance online publication. doi: 10.1111/sms.12688

Arnold, J., & Randall, R. (2010). *Work psychology: Understanding human behaviour in the workplace* (5th ed). Harlow, UK: Pearson Education Limited.

Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173-1182. doi: 10.1037//0022-3514.51.6.1173

Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine, 4,* 139-157. doi: 10.1007/bf00844267

Byrne, B. M. (2013). *Structural equation modelling with Mplus.* New York, NY: Routledge.

Campbell-Quick, J., Quick, J. D., & Gavin, J. H. (2000). Measurement. In A. Kadzin (Ed.), *Encyclopaedia of psychology* (pp. 484-487). New York, NY: American Psychological Association.

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior.* New York, NY: Cambridge University Press.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56,* 267-283. doi: 10.1037//0022-3514.56.2.267

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9,* 233-255. doi:10.1207/S15328007SEM0902_5

Cohen, S., & Wills, T. A. (1988). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98,* 310-357. doi: 10.1037/0033-2909.98.2.310

Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. (2001). *Organisational stress: A review and critique of theory, research, and applications.* Thousand Oaks, CA: Sage Publications.

Cousins, R., MacKay, C. J., Clarke, S. D., Kelly, C., Kelly, P. J., & McCaig, R. (2004). 'Management Standards' work-related stress in the UK: Practical development. *Work and Stress, 18,* 113-136. doi: 10.1080/02678370410001734322Cox, T. (1978). *Stress*. New York, NY: Macmillan.

Crocker, P. R. E., & Graham, T. R. (1995). Coping by competitive athletes with performance stress: Gender differences and relationships with affect. *The Sport Psychologist, 9,* 325-338.

Crocker, P. R. E., & Isaak, K. (1997). Coping during competitions and training sessions: Are youth swimmers consistent? *International Journal of Sport Psychology, 28,* 355-369.

Crocker, P. R. E., Mosewich, A. D., Kowalski, K. C., & Besenski, L. J. (2010). Coping: Research design and analysis issues. In A. R. Nicholls (Ed.), *Coping in sport: Theory, methods and related constructs* (pp. 53-76). New York, NY: Nova Science Publishers.

Dewe, P. J. (1992). Applying the concept of appraisal to work stressors: Some exploratory analysis. *Human Relations, 45,* 143-164.

Diener, E. (2009). Subjective well-being. In E. Diener (Ed.), *Social indicators of research series. The science of well-being* (Vol. 37, pp. 11-58). New York, NY: Springer Science and Media.

Diener, E., Lucas, R. E., & Oishi, S. (2005). Subjective well-being. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 63-73). New York, NY: Oxford Press.

Dewe, P. J., O'Driscoll, M. P., & Cooper. C. L. (2010). *Coping with work stress: A review*

and critique. Chichester, UK: John Wiley and Sons Ltd.

Didymus, F. F., & Fletcher, D. (2014). Swimmers' experiences of organisational stress: Exploring the role of cognitive appraisal and coping strategies. *Journal of Clinical Sport Psychology, 8,* 159-183. doi: 10.1123/jcsp.2014-0020

Ferguson, E., Daniels, K., & Jones, D. (2006). Negatively oriented personality and perceived negative job characteristics as predictors of future psychological and physical symptoms: A meta-analytic structural modelling approach. *Journal of Psychosomatic Research, 60,* 45-52. doi: 10.1016/j.jpsychores.2005.06.076

Field, A. (2009). *Discovering statistics using SPSS.* Thousand Oaks, CA: Sage Publications.

Fletcher, D., & Fletcher, J. (2005). A meta-model of stress, emotions and performance: Conceptual foundations, theoretical framework, and research directions. *Journal of Sports Sciences, 23,* 157-158.

Fletcher, D., Hanton, S., & Mellalieu, S. D. (2006). An organisational stress review: Conceptual and theoretical issues in competitive sport. In S. Hanton & S. D. Mellalieu (Eds.), *Literature reviews in sport psychology* (pp. 321-373). Hauppauge, NY: Nova.

Fletcher, D., Hanton, S., & Wagstaff, C. R. D. (2012). Performers' responses to stressors encountered in sport organisations. *Journal of Sports Sciences, 30,* 349-358. doi: 10.1080/02640414.2011.633545

Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European Psychologist, 18,* 12-23. doi: 10.1027/1016-9040/a000124

Fletcher, D., & Scott, M. (2010). Psychological stress in sports coaches: A review of concepts, research, and practice. *Journal of Sports Sciences, 28,* 127-137. doi: 10.1080/02640410903406208

Folkman, S. (1984). Personal control and stress and coping processes: A theoretical

analysis. *Journal of Personality and Social Psychology, 46*, 839-852. doi: 10.1037/0022-3514.46.4.839

Folkman, S., & Lazarus, R. S. (1988). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54,* 466-475. doi: 10.1037//0022-3514.54.3.466

Frese, M., & Zapf, D. (1988). Methodological issues in the study of work stress: Objective versus subjective measurement of work stress and the question of longitudinal studies. In C. Cooper & R. Payne (Eds.), *Causes, coping and consequences of stress at work* (pp. 375–411). New York, NY: John Wiley & Sons Ltd.

Gámez, W., Chmielewski, M., Kotov, R., Ruggero, C., & Watson, D. (2011). Development of a measure of experiential avoidance: The Multidimensional Experiential Avoidance Questionnaire. *Psychological Assessment, 23,* 692-713. doi: 10.1037/a0023242

Ganster, D. C., Mayes, B. T., Sime, W. E., & Tharp, G. D. (1982). Managing occupational stress: A field experiment. *Journal of Applied Psychology, 67,* 533-542. doi: 10.1037//0021-9010.67.5.533

Gould, D., Guinan, D., Greenleaf, C., Medbery, R., & Peterson, K. (1999). Factors affecting Olympic performance: Perceptions of athletes and coaches from more and less successful teams. *The Sport Psychologist, 13,* 371-394.

Hanton, S., Wagstaff, C., & Fletcher, D. (2012). Cognitive appraisals of stressors encountered in sport organisations. *International Journal of Sport and Exercise Psychology, 10,* 276-289. doi: 10.1080/1612197x.2012.682376

Jaccard, J., Turrisi, R., & Wan, C. K. (1990). *Interaction effects in multiple regression.* Newbury Park, CA: Sage Publications.

Kinicki, A. J., Prussia, G. E., & McKee-Ryan, F. M. (2000). A panel study of coping with involuntary job loss. *Academy of Management Journal, 43,* 90-100. doi: 10.2307/1556388

Kristiansen, E., Murphy, D., & Roberts, G. C. (2012). Organisational stress and coping in U.S. professional soccer. *Journal of Applied Sport Psychology, 24,* 207-223. doi: 10.1080/10413200.2011.614319

Lazarus, R. S. (1990). Theory-based stress measurement. *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory, 1,* 3-13.

Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55,* 234-247. doi: 10.1097/00006842-199305000-00002

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping.* New York, NY: Springer.

Lazarus, R. S., & Launier, R. (1978). Stress-related transactions between person and environment. In L. A. Pervin & M. Lewis (Eds.), *Perspectives in interactional psychology* (pp. 287-327). New York, NY: Plenum.

Lundqvist, C. (2011). Well-being in competitive sports – The feel good factor? A review of conceptual considerations of well-being. *International Review of Sport and Exercise Psychology, 4,* 109-127. doi: 10.1080/1750984x.2011.584067

Maier, K. J., Waldstein, S. R., & Synowski, S. J. (2003). Relation of cognitive appraisal to cardiovascular reactivity, affect, and task engagement. *Annals of Behavioral Medicine, 26,* 32-41. doi: 10.1207/s15324796abm2601_05

Males, J. R., & Kerr, J. H. (1996). Stress, emotion, and performance in elite slalom canoeists. *The Sport Psychologist, 10,* 17-36.

MacKay, C. J., Cousins, R., Kelly, P. J., Lee, S., & McKaig, R. H. (2004). 'Management Standards' and work-related stress in the UK: Policy background and science. *Work and Stress, 18,* 91-112. doi: 10.1080/02678370410001727474

Meehan, H. L., Bull, S. J., Wood, D. M., & James, D. V. B. (2004). The overtraining syndrome: A multicontextual assessment. *The Sport Psychologist, 18,* 154-171.

Navya, P., & Sandhya, G. (2014). Occupational stress, cognition and affect among University employees: A correlational study. *International Journal of Psychology*

and Psychiatry, 2, 57-64. doi: 10.5958/j.2320-6233.2.1.008

Nicholls, A. R., & Polman, R. C. J. (2007). Coping in sport: A systematic review. *Journal of Sports Sciences, 25,* 11-31. doi: 10.1080/02640410600630654

Noblet, A., Rodwell, J., & McWilliams, J. (2003). Predictors of the strain experienced by professional Australian footballers. *Journal of Applied Sport Psychology, 15,* 184-193. doi: 10.1080/10413200305394

Ntoumanis, N., & Biddle, S. J. H. (1998). The relationship of coping and its perceived effectiveness to positive and negative affect in sport. *Personality and Individual Differences, 24,* 773-788. doi: 10.1016/s0191-8869(97)00240-7

Ntoumanis, N., Biddle, S. J. H., & Haddock, G. (1999). The mediating role of coping strategies on the relationship between achievement motivation and affect in sport. *Anxiety, Stress, and Coping, 12,* 299-327. doi: 10.1080/10615809908250480

Ntoumanis, N., Mouratidis, A., Ng, J. Y. Y., & Viladrich, C. (2015). Advances in quantitative analyses and their implications in sport and exercise psychology research. In S. Mellalieu & S. Hanton (Eds.), *Contemporary advances in sport psychology: A review* (pp. 226-257). New York, NY: Routledge.

Parker, J. D. A., & Endler, N. S. (1996). Coping and defense: A historical overview. In M. Zeidner & N. S. Endler (Eds.), *Handbook of coping: Theory, research, applications* (pp. 3-23). Oxford, UK: John Wiley & Sons Ltd.

Perrewe, P. L., & Zellars, K. L. (1999). An examination of attributions and emotions in the transactional approach to the organisational stress process. *Journal of Organisational Behavior, 20,* 739-752. doi: 10.1002/(sici)1099-1379(199909)

Raedeke, T. D., & Smith, A. L. (2004). Coping resources and athlete burnout: An examination of stress mediated and moderation hypotheses. *Journal of Sport and Exercise Psychology, 26,* 525-541.

Rees, T., & Hardy, L. (2004). Matching social support with stressors: Effects on factors

underlying performance in tennis. *Psychology of Sport and Exercise, 5,* 319-337. doi: 10.1016/s1469-0292(03)00018-9

Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist, 41,* 813-819. doi: 10.1037/0003-066x.41.7.813

Rumbold, J. L., Fletcher, D., & Daniels, K. (2012). A systematic review of stress management interventions with sport performers. *Sport, Exercise, and Performance Psychology, 1,* 173-193. doi: 10.1037/a0026628

Semmer, N. (1996). Individual differences, work stress and health. In M. Schabracq, J. Winnubst, & C. Cooper (Eds.), *Handbook of work and health psychology* (pp. 51-86). New York, NY: John Wiley & Sons Ltd.

Sutherland, V. J., & Cooper, C. L. (2000). *Strategic stress management: An organisational approach.* Hampshire, UK: Palgrave.

Smith, R. E., Smoll, F. L., & Ptacek, J. T. (1990). Conjunctive moderator variables in vulnerability and resiliency research: Life stress, social support, coping skills and adolescent sport injuries. *Journal of Personality and Social Psychology, 58,* 360-370. doi: 10.1037/0022-3514.58.2.360

Spector, P. E., Zapf, D., Chen, P. Y., & Frese, M. (2000). Why negative affectivity should not be controlled in job stress research: Don't throw out the baby with the bath water. *Journal of Organisational Behavior, 21,* 79-95. doi: 10.1002/(sici)1099-1379(200002)

Sullivan, S. E., & Bhagat, R. S. (1992). Organisational stress, job satisfaction and job performance: Where do we go from here? *Journal of Management, 18,* 353-374. doi: 10.1177/014920639201800207

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics.* London, UK: Allyn and Bacon.

Tabei, Y., Fletcher, D., & Goodger, K. (2012). The relationship between organisational

stressors and athlete burnout in soccer players. *Journal of Clinical Sport Psychology, 6,* 146-165.

Thorsteinsson, E. B., Brown, R. F., & Richards, C. (2014). The relationship between work stress, psychological stress and staff health and work outcomes in office workers. *Psychology, 5,* 1301-1311. doi: 10.4236/psych.2014.510141

Watson, D. (1988). Intraindividual and interindividual analyses of positive and negative affect: Their relation to health complaints, perceived stress, and daily activities. *Journal of Personality and Social Psychology, 54,* 1020-1030. doi: 10.1037//0022-3514.54.6.1020

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect. *Journal of Personality and Social Psychology, 54,* 1063-1070. doi: 10.1037//0022-3514.54.6.1063

Weston, N. J. V., Thelwell, R. C., Bond, S., & Hutchings, N. V. (2009). Stress and coping in single-handed round-the-world ocean sailing. *Journal of Applied Sport Psychology, 21,* 460-474. doi: 10.1080/10413200903232607

Table 1. *Means, Standard Deviations, Alphas, and Correlations of the Variables.*

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. GD F	2.00	.97	.72																				
2. GD I	2.19	1.03	.84	.71																			
3. GD D	2.10	1.02	.81	.85	.71																		
4. LO F	1.10	.85	.50	.46	.44	.77																	
5. LO I	1.14	.83	.48	.54	.49	.81	.79																
6. LO D	1.07	.83	.52	.53	.54	.83	.83	.81															
7. TC F	2.10	1.09	.42	.41	.42	.31	.31	.30	.79														
8. TC I	2.21	1.14	.40	.44	.45	.29	.34	.34	.83	.79													
9. TC D	2.01	1.09	.43	.44	.47	.30	.30	.35	.82	.87	.78												
10. C F	1.64	1.28	.36	.36	.33	.32	.30	.31	.42	.45	.45	.80											
11. C I	1.78	1.38	.37	.37	.34	.35	.34	.36	.44	.47	.47	.87	.80										
12. C D	1.69	1.33	.38	.38	.38	.31	.31	.35	.43	.45	.48	.87	.86	.81									
13. S F	1.86	1.42	.35	.35	.31	.31	.32	.34	.54	.51	.56	.48	.47	.46	.85								
14. S I	2.07	1.51	.37	.41	.36	.29	.34	.35	.50	.53	.56	.45	.46	.46	.88	.86							
15. S D	1.89	1.43	.38	.40	.39	.30	.34	.38	.52	.54	.59	.46	.45	.47	.90	.90	.84						
16. PFC	3.07	.58	.36	.36	.31	.23	.24	.23	.25	.26	.27	.22	.18	.23	.19	.20	.22	.72					
17. EFC	2.77	.64	.32	.33	.30	.19	.21	.20	.25	.28	.28	.20	.24	.23	.21	.18	.23	.45	.68				
18. AC	2.04	.65	.18	.13	.13	.24	.24	.22	.20	.18	.22	.19	.25	.21	.22	.19	.19	.04	.33	.51			
19. PS	6.08	2.02	-.14	*-.10*	-.13	*-.10*	-.05	-.09	*-.11*	*-.10*	*-.11*	-.08	*-.10*	*-.10*	-.04	.01	-.03	.02	-.13	*-.11*	N/A		
20. PA	3.75	.80	.06	.08	.05	-.01	.03	-.03	.01	-.02	-.06	-.00	-.02	-.04	.01	.00	.01	.27	.02	-.24	.45	.90	
21. NA	2.12	.77	.38	.41	.39	.20	.20	.21	.35	.38	.35	.22	.26	.25	.24	.24	.27	.30	.43	.14	-.25	.05	.84

Note. Cronbach's alpha (α) appears on the matrix diagonal. Pearson *r*'s appear below the matrix diagonal (underlined values significant at $p < .01$; italic values significant at $p < .05$). GD = Goals and Development, LO = Logistics and Operations, TC = Team and Culture, C = Coaching, S = Selection; F = Frequency, I = Intensity, D = Duration; PFC = Problem-Focused Coping, EFC = Emotion-Focused Coping, AC = Avoidance Coping; PS = Performance Satisfaction, PA = Positive Affect, NA = Negative Affect.

Table 2. *Regression Model Summary: Positive Affect as Dependent Variable*

Model/Block/Step	R Square Change	F Change	Sig F Change	Beta
1	.030	1.230	.270	
GD Frequency				.057
GD Duration				.076
LO Frequency				.022
LO Duration				-.091
TC Frequency				.158
TC Duration				-.*239*
C Frequency				.093
C Duration				-.124
S Frequency				-.025
S Duration				.085
2	.012	.987	.426	
GD Intensity				.153
LO Intensity				.139
TC Intensity				.000
C Intensity				-.002
S Intensity				-.093
3	.130	20.619	*.000*	
PFC				*.312*
EFC				-.040
AC				-.*231*

Note. Italic values significant at $p < .05$. Step 1 of the regression involved entering the frequency and duration variables for each of the five organisational stressor domains. Step 2 involved entering the intensity variables for each of the five organisational stressor domains. Step 3 involved entering the three coping variables. GD = Goals and Development, LO = Logistics and Operations, TC = Team and Culture, C = Coaching, S = Selection; PFC = Problem-Focused Coping, EFC = Emotion-Focused Coping, AC = Avoidance Coping.

Table 3. *Regression Model Summary: Performance Satisfaction as Dependent Variable*

Model/Block/Step	R Square Change	F Change	Sig F Change	Beta
1	.030	1.233	.268	
GD Frequency				-.079
GD Duration				-.028
LO Frequency				-.061
LO Duration				.032
TC Frequency				-.042
TC Duration				-.045
C Frequency				.040
C Duration				-.083
S Frequency				-.026
S Duration				.108
2	.020	1.674	.140	
GD Intensity				.069
LO Intensity				.090
TC Intensity				-.050
C Intensity				-.086
S Intensity				*.286*
3	.012	1.616	.185	
PFC				.069
EFC				-.090
AC				-.051

Note. Italic values significant at $p < .05$. Step 1 of the regression involved entering the frequency and duration variables for each of the five organisational stressor domains. Step 2 involved entering the intensity variables for each of the five organisational stressor domains. Step 3 involved entering the three coping variables. GD = Goals and Development, LO = Logistics and Operations, TC = Team and Culture, C = Coaching, S = Selection; PFC = Problem-Focused Coping, EFC = Emotion-Focused Coping, AC = Avoidance Coping.

Table 4. *Regression Model Summary: Negative Affect as Dependent Variable*

Model/Block/Step	R Square Change	F Change	Sig F Change	Beta
1	.211	10.770	*.000*	
GD Frequency				.147
GD Duration				*.184*
LO Frequency				.044
LO Duration				-.096
TC Frequency				*.163*
TC Duration				.047
C Frequency				-.070
C Duration				.097
S Frequency				-.059
S Duration				.093
2	.029	3.041	*.010*	
GD Intensity				*.227*
LO Intensity				-.089
TC Intensity				*.213*
C Intensity				.167
S Intensity				-.148
3	.072	13.696	*.000*	
PFC				.054
EFC				*.272*
AC				-.014

Note. Italic values significant at $p < .05$. Step 1 of the regression involved entering the frequency and duration variables for each of the five organisational stressor domains. Step 2 involved entering the intensity variables for each of the five organisational stressor domains. Step 3 involved entering the three coping variables. GD = Goals and Development, LO = Logistics and Operations, TC = Team and Culture, C = Coaching, S = Selection; PFC = Problem-Focused Coping, EFC = Emotion-Focused Coping, AC = Avoidance Coping.